Department of Defense Bloggers Roundtable With Ray Mabus, Secretary of the Navy Via Teleconference Subject: The Navy's Progress Toward Achieving Their Energy Goals and The Strategic and Tactical Importance of Shifting Energy Sources. Time: 10:32 a.m. EDT Date: Monday, August 22, 2011

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LIEUTENANT TIFFANI WALKER (Office of the Secretary of Defense Public Affairs): Well, good morning, Secretary and bloggers. I'd like to welcome you all to the Department of Defense Bloggers Roundtable for Monday, August 22nd, 2011. My name is Lieutenant Tiffani Walker with the Office of Secretary of Defense Public Affairs, and I will be moderating our call today.

Today we are honored to have as our guest the 75th secretary of the Navy, Mr. Ray Mabus. He will discuss alternative energy sources and the Navy's future energy goals.

A note to our bloggers on the line today: Please remember to clearly state your name and blog or organization in advance of your question. Respect the secretary's time and keep your questions succinct, to the point and on the topic of the Navy's progress toward achieving their energy goals and the strategic and tactical importance of shifting energy sources.

At this point I'd like to turn it over to Secretary Mabus for an opening statement. Sir:

SECRETARY RAY MABUS: Thank you, Lieutenant.

Shortly after I took office in 2009, I issued five energy goals for the Navy. The most overarching or broadest goal was by no later than 2020, at least half of all Navy energy, both afloat and ashore, would come from non-fossil fuel sources. I did this to address a vulnerability. We simply buy too much petroleum from volatile places on earth, and we need to address that vulnerability to reduce our dependence on foreign sources of fuel.

We have since then been moving aggressively to meet all five goals. We've done a lot of things so far. We've tested an F/A-18 on biofuel and Avgas (aviation gas) mixture, same thing with our

helicopters, the V-22 Osprey, and our riverine patrol craft. We have launched the first Navy hybrid ship, the USS Makin Island, which uses an electric drive for speeds under 12 knots. On its maiden voyage from Pascagoula, Mississippi, to San Diego, its home port, it saved more than two million dollars in fuel cost.

That's the strategic notion...that we are buying too much oil and gas from places we should not buy from. The tactical reason, though, you see in Afghanistan where we import more gasoline than any single substance. For every 50 convoys of fuel we transport, a Marine is either killed or wounded. That is simply too high a price to pay. And so the Marines have been very forward-leaning in terms of moving alternative energy, and solar power -- solar power for things like powering radios and GPS.

We're now saving a Marine company almost 700 pounds of batteries by using solar blankets to power some of these things.

And so we are -- we're moving on a number of different fronts. We're going to demonstrate the Great Green Fleet, which is a carrier strike group that sails on non-fossil fuel sources, including its air wing, in 2012. We're going to deploy the Great Green Fleet in 2016. And I'm absolutely confident that we're going to meet these goals that have been set forward.

Last week, I participated with Secretary of Agriculture Tom Vilsack and Secretary of Energy Steven Chu in signing a memorandum of understanding to establish, at President Obama's order, a nationwide biofuel industry. We used the Defense Production Act, which says that if you have an industry which is vital to national security that is not existent in the United States, the government can step in and partner with private business in order to get that business up and running. The three departments are putting in a little over \$500 million in already-existing dollars to help partner with business to set up a nationwide biofuel industry.

The Navy will do two things. One is, we will make our contribution of about \$170 million to help either build or retrofit biofuel plants for -- to produce biofuel. We will also be willing to sign offtake contracts so that we will provide the market for these biofuels. And finally, earlier this summer, the Defense Logistics Agency, on behalf of the Navy, issued a request for proposals for 450,000 gallons of biofuels for our test purposes, which we think is the largest biofuel purchase ever undertaken in the United States.

So those are the goals and some of the things we've done in order to meet those goals. And I'm happy to answer your questions.

LT. WALKER: Well, thank you very much, sir.

I'd like to ask if there were any other bloggers that joined us. No? OK, then we will start with our bloggers that are on the line today.

Tom Goering, go ahead.

Q: Mr. Secretary, thank you very much. My name's Tom Goering. I'm with Navy CyberSpace, or navycs.com. My question is toward the funding. Well, with DOD already preparing for budget cuts of up to about \$450 billion, the various programs and platforms in our Navy will feel --obviously feel a pinch. I assume that in order to find the Navy's share of that -- those cuts, many hard choices will have to be made, and some programs will have to deal with less funding or maybe even be eliminated altogether. While going through this process, sir, how was it or how is it the Navy was able to find \$170 million to repurpose? And could you please identify those specific programs that'll be affected by the repurposing of those funds? Thank you.

SEC. MABUS: To answer your question, going forward with the budget situation, the economic situation that we're in today, you're absolutely correct that a lot of hard choices are going to have to be made, and you're going to have to set priorities. And those priorities should be strategy-driven priorities. Energy and the energy vulnerability that we have is one of the highest priorities that we have here in the Department of the Navy.

And if you look at money expended versus money saved, in the next five years the money that is planned to be expended on energy and energy efficiency — both energy efficiency and new forms of energy is — it will nearly pay for itself in terms of savings. If you look out past five years, the savings are tremendous. They are huge for the Navy and for the Marine Corps.

So if you are looking for ways to save money, to make the most use of the money that we have, then this has to be one of our highest priorities.

In answer to your second question, we repurposed the money that would have gone for research and development or -- we were in the same ball park. We simply repurposed it for this specific charge that the president ordered us to do. And it was not -- the reason I -- the reason I emphasized that was it was not new money. We didn't have to go back and ask for additional money. We simply took some money that was going to be used to look at things like operation, maintenance and research and development, and put it here, making one of those choices that -- because this is such a high priority.

LT. WALKER: All right. Thank you, sir, and Tom.

Next up we have Mr. Chuck Simmins.

Q: Good morning, Mr. Secretary. Thank you for speaking with us today. My name is Chuck Simmins, and I'm with America's North Shore Journal.

With corn prices running about 86 to 89 percent higher than they were a year ago, and with many of the Arab Spring demonstrations being kicked off by high food prices overseas, and those high food prices causing repeated concerns at the United Nations, is devoting United

States grains to biofuel an ethical choice given that it is making it more difficult for the third world to feed their people?

SEC. MABUS: One of the requirements that we have for the biofuel is that -- it was in the memorandum of understanding and has been one of the requirements Navy has had since the (word go?), is that it does not take land or food out of production, it does not affect the food-producing capabilities. The types of biofuels that are being looked at are things from algae, from inedible food products like camelina, which is a mustard seed, or even from waste, from agricultural waste, things like tree limbs or wheat stalks or things like that.

But we do -- we have two requirements. One is that it be a drop- in fuel, that the -- we don't have to do anything different with our engines, that the fuel works exactly the way that petroleum works; second, that we do not take land or productivity out of -- out of food -- out of food production. We don't want to compete with producing food. Q: Thank you, sir.

LT. WALKER: All right. Thank you, sir, and Chuck.

Next up, we have Mr. Dale Kissinger.

Go ahead, Dale.

Q: Good morning, Mr. Secretary. This is Dale Kissinger from militaryavenue.com. As a long-term operator in a different service which I won't mention this morning, operational impacts on biofuels, operators that are out in the field, are you having any skeptics of a headquarters-driven program?

SEC. MABUS: Actually, one of the really -- I won't say it's a surprise, but it's been a very pleasant realization -- is how readily people have adopted this, because, I mean, the Marines are a great example. They have been the most aggressive in adopting these alternative fuels.

And we're not just talking about biofuels here. We're also talking about things like solar and wind, geothermal, hydrothermal, wave things. Because the Marines are fighting in Afghanistan now; they're — the things that they're looking toward are things like geothermal — I mean, solar and wind. The shore things that we — that we do — even though we are a seagoing service and an expeditionary service, the Navy owns — Navy and Marine Corps own 3.3 million acres of land, 72,500 buildings.

So we're looking to reduce fossil fuel usage there too by various kinds of alternative fuels.

And if I can go back just a little bit to a previous question, the other requirement that we have for whatever it is, whether it's biofuels or solar panels or wind turbines, is that they be domestically produced. We don't want to trade one foreign source of energy for another foreign source of energy. So I think it's going to be a win-win

for farmers, for employees, because there are going to be a lot of new jobs here, and also for the military.

But to answer your specific question, it has -- it has been received pretty enthusiastically. And again I'll use the Marines as an example. We're saving (lives of ?) Marines now, and they have enthusiastically taken to this. And now part of their training before they go to a deployment is on these alternative energy things that they can use to cut down their dependence on oil and gas, their need to be resupplied and their need to have convoys coming in with gasoline.

- Q: Thank you very much, sir. That was great.
- LT. WALKER: All right, thank you.

Geoff, you're up next.

Q: Hi, sir. This is Geoff Ziezulewicz with Stars and Stripes. There was a RAND report put out last year that critiqued some of these Defense Department initiatives. What do you say to one of the concerns raised in terms of the commercial viability of things like algae or camelina? You know, are these, you know, good to go right now at a -- at a cost-efficient rate and at a way that won't adversely affect greenhouse gas emissions?

SEC. MABUS: Well, I'm very familiar with that report. And I would just say that we disagree very basically with it for a couple of reasons. One is that a lot of the information it used we believe was completely out of date. It went against what we are actually doing. It said that you can't do X, Y or Z. And we are actively doing X, Y and Z now.

The second one is that they wrote this report and quoted my energy goals, and yet never talked to me or anyone in my (office ?). They have no idea what we were doing and yet put out the report. So we think that it's basically a very flawed report, and we are actually finding in practice that we can do a lot of these things.

In terms of biofuels in particular, camelina is what we flew the F-18 on, and it worked great. And the price of biofuels -- one of the reasons that the president charged the three agencies -- Navy, Agriculture and Energy -- to establish a nationwide biofuels industry was to be at a price point that is competitive with petroleum, and not so that we have to pay a lot of additional money for these biofuels. And we've seen even in the small amounts we're buying for testing that last year, for example, the cost -- it was cut in half. It's on track to be cut in half again this year. So while it's not at a competitive rate yet simply because there's not a big enough market, we believe that if you do create this market, which we are capable of doing in the military, that the price will be competitive with petroleum.

LT. WALKER: Thank you, sir. Graham, you're up next.

Q: Yes, hi. Graham Warwick, Aviation Week. Can I ask what the 500 million (dollars)-plus will be used to do? You're saying drop in fuels, and you want to establish an industry. Are you restricting it to the hydrotreated -- the HRJ class of fuels that are already approved, or could you just explain what you want to spend the money on?

SEC. MABUS: Very soon we're going to be putting out a request for proposals to industry to tell us what they would use the money -- how much money they would put up, and what they -- what sorts of technologies they would use the money toward.

The requirements that we have is that it be nationwide; that it be geographically dispersed; that it, as I said earlier, not take any money out of any land or food production; and third, that it be a drop-in fuel. We are neutral as to what that fuel is, and we are -- when we put the RFP out, we're going to be dependent on industry coming back. And the money would be spent to partner with industry, to either build new refineries for biofuels, regardless of what kind of fuels those are, or to retrofit existing refineries so that they can -- they can do some (of these things ?).

And again, I want to stress that this would be a nationwide endeavor, because while the Navy and the Marine Corps would be the first group that would provide a market, obviously the goal would be to make it competitive with petroleum and to get it out in the commercial sector. The commercial aircraft have expressed a -- commercial aircraft flyers and manufacturers have expressed a big interest in this, and moving it to -- into the full commercial sector. Not simply dependent on something like the Navy taking the output, is the -- obviously, the ultimate goal here.

Q: As part of this, are you asking to -- permission or authority to sign longer offtake contracts? I know that the industry's saying they need longer than five years in terms of contract.

SEC. MABUS: We would -- we would like to do that. We have -- we can, as you pointed out -- for fuel, we can sign a five-year contract. For energy, DOD -- the secretary of Defense has the authority to sign up to a 15-year contract. But one of the proposals we have made to Congress is to allow us to sign longer than five years offtake. But we think that even with the five-year offtake, we can be successful here, given the fact that there is going to be the partnership and that we've reduced the risk for both the feedstock and the manufacturing so significantly.

- Q: Thank you.
- LT. WALKER: All right, thank you, sir. Next up, we have Noah.
- Q: Hey. How're you doing? Noah Shachtman with Wired.

The U.S. has made bets on biofuels before, specifically with ethanol, and it seems like it bet pretty wrong. You know, corn-based ethanol has kind of proved to wreak havoc with food prices and was a lot more expensive than some of the sugar-based -- sugar-cane-based ones

that are coming out of Brazil and elsewhere. So how do you know you're going to get this bet right, when you -- when the government's gotten other ones wrong? And then I've got a follow-up.

SEC. MABUS: Well, we -- number one, we're going to, as I said, put out a request for proposals and see what industry comes back with. Number two, we do have certain requirements that bound the process: that it -- that in the end it has to be financially competitive with petroleum; number two, that it not take any food out of production; number three, that it -- that it be a drop-in fuel; and number four, that it lower the carbon footprint. So we've got those safeguards.

And we know that we have to move in this direction. I mean, the dependence on particularly foreign petroleum, foreign oil and gas, is simply too big a national security risk to take. It -- we have to move toward energy independence.

Now, it's got some great side effects. It's going to, I think, help farmers. It's going to help create a new energy economy and create a lot of new jobs. But the main reason we're doing it is to make us better war fighters. And it's simply not something that we can ignore.

Finally, we haven't put all our eggs in this particular basket. We're moving, as I said, on energy efficiency: doing the same thing, just using less energy to do it. We're doing that by building all Navy buildings to LEED Gold standards. We're -- as I said, we've launched the first hybrid ship, and we're looking at retrofitting other warships with that hybrid drive.

We are installing smart meters in all our facilities to give us a notion of where our energy usage is and how we can cut that.

We're also continuing a big research and development initiative, and not just Navy, that's -- people like DARPA and other defense agencies are looking at the science of this whole thing. And that's why we're sort of neutral on what kind of fuels or what kind of alternative energy, because as science progresses, it may be something that we don't know about today.

Q: And the follow-up is, do you need this biofuel -- these contracts in place and this production working in order to have the Great Green Fleet take its -- you know, take its test, let alone deploy?

SEC. MABUS: No, we don't need it for the -- for the demonstration next year. What we do need it for is to meet the goal of 50 percent or more, at least, by 2020, because we will need about 8 million barrels of biofuel a year by 2020. And that's what we need the -- that's what we will need this initiative for.

Q: OK. Got it.

LT. WALKER: All right, thanks, Noah.

Josh, you're up next.

Q: Yep. I was just wondering -- I was looking through contracts that were awarded last week. It looks like there's a half-billion dollars that's going to be spent on renewable energy in Hawaii for a solar project. What can you tell me about that?

SEC. MABUS: I'm not sure. (Chuckles.)

Q: (Laughs.)

SEC. MABUS: I know we've got a -- we've undertaken, with Agriculture, in Hawaii -- this was a couple of years ago -- to look at alternative energy in Hawaii, but that was mainly through farm product.

Q: Right. SEC. MABUS: And we did that because Hawaii imports the most oil and gas of any U.S. state and because we've got such a significant military presence there.

I'll have to 'fess up, I don't know about the solar award in Hawaii, but I'll get you some information and follow up with you.

Q: All right. (Guess that ?) kind of killed my train of thought there. Thank you, though.

SEC. MABUS: Well, you sort of killed mine, too. (Laughter.)

Q: All right. It's equal, then.

LT. WALKER: Hey, Mike, you're up next.

 $\ensuremath{\text{Q:}}$  Yeah, hi. Mike Fabey, Aviation Week. How you doing, Secretary?

SEC. MABUS: Good. How about you?

Q: Just fine.

Since you had mentioned the success of Makin Island, I'm just curious of how interested you are in continuing to develop the hybrid and/or electric drive, and if you're going to become -- you know, be looking carefully at the success or -- hopeful success, anyway, of the DDG-1000 when it comes online.

SEC. MABUS: Well, we're very interested in the hybrid drive. And we're doing work right now in terms of looking at retrofitting the ships that we already have and also putting it in the new ships we're constructing. Since the DDG-1000 is only going to be a three-ship class, we're looking mainly at things like the DDG-51s, which we've got a lot in the fleet and we're proposing to build a lot more. So --

Q: So you're looking at retrofitting the current 51s and as well as the Flight IIIs going forward?

SEC. MABUS: Yes.

- Q: OK.
- LT. WALKER: All right, thank you.

Did any other bloggers join us on the line? (No response.) OK, everyone's had the chance to ask one question. I'm going to go back around to the top for a couple and then we're going to wrap it up.

Q: Wait, wait. This is Eagle 1 from EagleSpeak.

- LT. WALKER: OK, go ahead.
- Q: Mr. Secretary, I appreciate the idea of energy independence and, in the long run, probably the green fuel initiatives you have. My question is, are you at the same time encouraging domestic oil companies to develop their production levels? Are we looking at synthetic fuels from coal? Are we looking at developing the shale oil capabilities out in Wyoming as other ways to get fuel and create energy independence?
- SEC. MABUS: As I said, we have been neutral in terms of what the fuels to be used are. The coal-to-oil notion, the Fischer-Tropsch process, has, at least in the initial look we've taken, gotten -- has a lot of -- a lot of issues with it in terms of the environment, in terms of cost, things like that.

But we're -- we are not -- as long as -- as long as the fuel meets those things that I -- that I set out -- that it's a drop-in fuel, that it's price competitive with petroleum today, that it (reduces ?) the carbon footprint and that it doesn't take any land out of -- or any food production out, we're certainly willing to -- we're not trying to narrow it down. But we are trying to -- we are absolutely serious about those four requirements.

- Q: Can I ask a quick follow-up on the Great Green Fleet deployment in 2016 I think you said? Is there going to be a train of oilers following this fleet, carrying this product which will be made American-made?
- SEC. MABUS: We'll treat it the same way we do any other deployment. We'll have an oiler with it, which we do with every -- or nearly every carrier strike group. But we would be dependent on buying fuel where we go, which we do today. And we're -- we've been working with other countries in terms of making sure that they're going to be ready with the types of biofuels that we need.
  - Q: Thank you, Mr. Secretary.
  - LT. WALKER: All right, we'll head back around to Tom.
  - Q: Thank you, ma'am.
- Sir, one quick question. But -- I'm not a scientist by any means, but my understanding of biofuels -- and my only experience is biodiesel -- is that when you get to colder weathers, it becomes an

unusable fuel until it heats backs up. In the F-18 tests with the biofuels, does it limit the ceiling of the plane and the type of weather conditions that it can operate in? Thank you, sir.

SEC. MABUS: No. It is a completely drop-in fuel. It -- the F-18 went mach 1.7. It went to its normal operational ceiling and experienced absolutely no issues in that.

The -- it was -- it was a blend of biofuel and aviation gas. And the only reason it was a blend is, so far, biofuels do not have the lubricating capacity to do the lubrication that engines need. And I think science is going to fix that, is going to solve that in the not-too-distant future. But until that happens, we will continue to use a blend. Q: Real quick, sir. What percentage of the -- of the biofuel to regular fuel was used?

SEC. MABUS: It was 50-50 on the F-18.

Q: Thank you, sir.

LT. WALKER: OK, Chuck, go ahead.

Q: Yes, Mr. Secretary, in the email that we received announcing this discussion talked about installation energy use. And some installations are net zero. The -- two-part question. First of all, does our energy-use goals include overseas bases like in Bahrain and Japan? And secondly, can you tell me some of the installations that are currently net zero on energy use?

SEC. MABUS: Answer to your first question is, it includes all our bases, whether domestic or overseas.

Number two, China Lake naval facility is -- it's better than net zero. It returns energy to the grid from geothermal sources. Secondly, Marine Base 29 Palms, California -- (technical difficulties) --

LT. WALKER: Excuse me.

We're going to -- excuse me. This is Lieutenant Walker. I'm going to have to break the call. I'll call back in with Secretary Mabus, and then Dale Kissinger and Geoff, if you'd like to dial back in. And we're going to edit this out, and everyone else -- it'll be available for audio download shortly.

Q: Thank you.

(Cross talk.)

LT. WALKER: I don't know who hung up, but that was -- I apologize. Somebody put us on hold and got us on the hold music. I'm sorry, I don't know if -- Chuck, if you're still on the line.

Q: I'm here, yeah.

SEC. MABUS: OK.

LT. WALKER: OK. Sorry about that.

Q: He was talking about 29 Palms.

SEC. MABUS: OK, well, anyway, China Lake -- 29 Palms is close to net zero. They're using things like solar. They're also using some trash-to-energy, just household garbage to energy.

The Marine base at Albany, Georgia, has recently gone to the trash-to-energy, using methane -- using methane from -- derived from trash. And we have things like more than a hundred megawatts of solar.

Q: Navywide, a hundred megawatts of solar?

SEC. MABUS: Navywide, a hundred megawatts of solar on the drawing board, which is enough solar to power a city the size of Norfolk.

And finally, we've been really encouraged and excited about what we've seen in Afghanistan. We've got some combat outposts that are completely alternate fuel now. And the combat -- the forward operating bases, some of them have reduced their fossil fuel usage by 20 percent or more. So we know it can be done. We know it can be done in the field. And it's being done in the middle of some of the heaviest fighting in Afghanistan, and so we know it can be done in very tough conditions. And as I said, the Marines have embraced it very enthusiastically.

- Q: Thank you, sir.
- LT. WALKER: Dale, go ahead. You're the last blogger.
- Q: Yes, ma'am. Thank you.

Mr. Secretary, is there any Navy family programs for biofuels, or any, you know, energy-saving programs that are being, you know, placed toward military families?

SEC. MABUS: Well, for families that live on-base, as I said, we're putting things like smart meters in. We hope that as we do things such as change the type of vehicles we're buying for our noncombat fleet, as we're moving to more electric vehicles, more hybrid vehicles, more flex-fuel vehicles, that things like recharging stations for electric vehicles will spread around our Navy communities and our Marine communities so that -- so that Navy and Marine families will be able to begin to make use of some of these new technologies.

If you -- if you live in government housing, we're beginning to do some of these green things that I talked about with solar and with using alternative powers, and also with smart metering. So you -- while it's not directly aimed at Navy families, Navy families, I think, in the -- in the short run, will be able to get some benefit from some of these things.

Q: Thank you very much, sir.

SEC. MABUS: OK.

LT. WALKER: All right, thank you all.

We've had some great questions and comments today. As I'd like to wrap up today's call, I'd like to see if Secretary Mabus has any final comments. Sir?

SEC. MABUS: Well, I appreciate very much this opportunity. The questions that I got asked are some of the most pertinent ones that we have been looking at. And I think that by listening to what your concerns are, because you on a day-to-day basis are there dealing with these issues and seeing the implications of it, that it can only be helpful as we move forward here toward gaining energy independence and toward making us better war fighters.

And so I really want to thank you for the service that you give by exposing and casting light on a lot of these issues. And thank you so much for the excellent questions.

LT. WALKER: Well, thank you, sir. We appreciate it.

Today's program will be available online at dodlive.mil, where you'll be able to access a story based on today's call along with other source documents such as this audio file and a print transcript.

Again, thank you, Secretary Mabus and our blogger participants. This concludes today's event. Feel free to disconnect at this time. Goodbye.

Q: Thanks, sir.

Q: Thank you.

SEC. MABUS: Thank you, ma'am.

LT. WALKER: Take care, sir. You're welcome.

END.